



FACSIMILE TRANSMISSION

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APPENDIX

1. A vaccine for alleviating or preventing autoimmune disorders induced by infection with Epstein-Barr virus comprising
Epstein-Barr virus or a component thereof in a pharmaceutically acceptable carrier for administration of the virus or viral component in an amount and mode of administration effective to alleviate or prevent the autoimmune disorders.
2. The vaccine of claim 1 wherein one or more structures of the Epstein-Barr virus are removed or altered to decrease the potential that the vaccine will induce an autoimmune disorder.
3. The vaccine of claim 1 wherein the component of Epstein-Barr virus is selected from the group consisting of peptides or proteins expressed from recombinant DNA or RNA with sequence identity to Epstein-Barr virus, viral DNA or RNA, and carbohydrate components of the Epstein-Barr virus.
4. The vaccine of claim 1 wherein the Epstein-Barr virus comprises the nuclear antigen 1 protein not including a peptide sequence selected from the group consisting of PPPGRRP, GRGRGRGG and RGRGREK.
5. The vaccine of claim 1 in a pharmaceutical carrier for administration by injection.
11. A method for preventing or alleviating autoimmune disorders induced by infection with Epstein-Barr virus comprising
vaccinating or administering to a individual at risk of developing, or who has been identified as having symptoms associated with, an autoimmune disorder induced by infection with Epstein-Barr virus,
Epstein-Barr virus or a component thereof in a pharmaceutically acceptable carrier for administration of the virus or viral component in an amount and mode of administration effective to alleviate or prevent the autoimmune disorders.
12. The method of claim 11 wherein one or more structures of the Epstein-Barr virus are removed or altered to decrease the potential that the vaccine will induce an autoimmune disorder.
13. The method of claim 11 wherein the component of Epstein-Barr virus is selected from the group consisting of peptides or proteins expressed from recombinant DNA or RNA with

sequence identity to Epstein-Barr virus, viral DNA or RNA, and carbohydrate components of the Epstein-Barr virus.

14. (amended) The method of claim 11 wherein the Epstein-Barr virus comprises the nuclear antigen 1 protein not including a peptide sequence selected from the group consisting of PPPGRRP (SEQ ID NO:1), GRGRGRGG (SEQ ID NO:2) and RGRGREK (SEQ ID NO:3).

15. (amended) The method of claim 11 wherein the individual has symptoms of or is at risk of developing an autoimmune disorder selected from the group consisting of systemic lupus erythematosus, Sjogren's syndrome, rheumatoid arthritis, juvenile onset diabetes mellitus, Wegener's granulomatosis, inflammatory bowel disease, polymyositis, dermatomyositis, multiple endocrine failure, Schmidt's syndrome, autoimmune uveitis, Addison's disease, adrenalitis, primary biliary cirrhosis, Graves' disease, thyroiditis, Hashimoto's thyroiditis, autoimmune thyroid disease, pernicious anemia, lupoid hepatitis, demyelating diseases, multiple sclerosis, subacute cutaneous lupus erythematosus, hypoparathyroidism, Dressler's syndrome, myasthenia gravis, autoimmune thrombocytopenia, idiopathic thrombocytopenic purpura, hemolytic anemia, autoimmune hemolytic anemia, pemphigus vulgaris, pemphigus, bullous pemphigoid, dermatitis herpetiformis, alopecia areata, autoimmune cystitis, pemphigoid, scleroderma, progressive systemic sclerosis, CREST syndrome (calcinosis, Raynaud's esophageal dysmotility, sclerodactyly, and telangiectasia), adult onset diabetes mellitus (Type II diabetes), male or female autoimmune infertility, ankylosing spondylitis, ulcerative colitis, Crohn's disease, mixed connective tissue disease, polyarteritis nodosa, systemic necrotizing vasculitis, juvenile onset rheumatoid arthritis, glomerulonephritis, atopic dermatitis, atopic rhinitis, Goodpasture's syndrome, Chagas' disease, sarcoidosis, rheumatic fever, asthma, recurrent abortion, anti-phospholipid syndrome, farmer's lung, erythema multiforme, postcardotomy syndrome, Cushing's syndrome, autoimmune chronic active hepatitis, bird-fancier's lung, allergic encephalomyelitis, toxic necrodermal lysis, alopecia, Alport's syndrome, alveolitis, allergic alveolitis, fibrosing alveolitis, interstitial lung disease, erythema nodosum, pyoderma gangrenosum, transfusion reaction, chronic fatigue syndrome, fibromyalgia, Takayasu's arteritis, Kawasaki's disease, polymyalgia rheumatica, temporal arteritis, giant cell arteritis, Sampter's syndrome (triaditis also called, nasal polyps, eosinophilia, and asthma), Behcet's disease, Caplan's syndrome, dengue, encephalomyositis, endocarditis, myocarditis, endomyocardial fibrosis, endophthalmitis, erythema elevatum et diutinum, psoriasis, erythroblastosis fetalis, fascitis with eosinophilia, Shulman's syndrome, Felty's syndrome, filariasis, cyclitis, chronic cyclitis, heterochromic cyclitis, Fuch's cyclitis, IgA nephropathy, Henoch-Schonlein purpura, glomerulonephritis, cardiomyopathy, post vaccination syndromes, Hodgkin's and non-Hodgkin's lymphoma, renal cell carcinoma, Eaton-Lambert syndrome, relapsing polychondritis.

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RESPONSE TO RESTRICTION REQUIREMENT

16. (amended) The method of claim 11 wherein the vaccine is administered prior to infection with Epstein-Barr virus.

17. (amended) The method of claim 11 wherein the vaccine is administered to an individual who has or has previously had an infection with Epstein-Barr virus.

18. (amended) The method of claim 11 wherein the autoimmune disorder is systemic lupus erythematosus.